

Nevada Energy Storage LLC
Dr. Michael A. Werner PhD. Min. Met. Eng.
Managing Director
7425 East Columbia Drive
Spokane Washington 99212

April 23, 2020

Kimberly D Bose,
Secretary Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: Preliminary Permit – Ruby Hill Energy Storage Project

Dear Ms. Bose,

Please find attached the Preliminary Permit Application for the Ruby Hill Pumped Hydro Energy Storage Project.

If you have any questions or need additional information, please contact me at 509 280-7486 or email at michaelawerner@comcast.net.

Sincerely,

Michael Werner
Managing Director
Nevada Energy Storage LLC
7425 East Columbia Drive
Spokane, Washington 99212

Preliminary Permit Application for the Ruby Hill Energy Storage Project

Prepared by:

Nevada Energy Storage LLC
Dr. Michael A. Werner PhD. Min. Met. Eng.
Managing Director
7425 East Columbia Drive
Spokane Washington 99212

Mobile 509 280-7486

Preliminary Permit Application for the Ruby Hill Energy Storage Project

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INITIAL STATEMENT

Nevada Energy Storage LLC ("NES" or "Applicant") applies to the Federal Energy Regulatory Commission ("FERC") for a preliminary permit for the proposed Ruby Hill Pumped Hydro Energy Storage Project ("Project") as described in the attached exhibits. This application is made in order that the Applicant may secure and maintain priority of application for a license for this project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the Project and to support an application for a license.

(1) The location of the proposed project is:

State or Territory: Nevada

County: Eureka

Township or nearby town: Eureka

Stream or other body of water: No Stream - Closed Loop

(2) The exact name, business address, and telephone number of the Applicant is:

Michael A Werner

Nevada Energy Storage LLC

7435 E Columbia Dr.

Spokane, Washington 99212 Phone: (509) 280-7486

(3) The exact name and business address of each person authorized to act as an agent for the Applicants in this application is:

Michael A Werner

Nevada Energy Storage LLC

7435 E Columbia Dr.

Spokane, Washington 99212

Phone: (509) 280-7486

E-mail: michaelawerner@comcast.net

Steve C. Wood

Nevada Energy Storage LLC

849 N. 2nd Street

Coeur d' Alene Idaho 83814

(720) 503-0669

scwood@rammpowergroup.com

(4) Nevada Energy Storage LLC is a domestic corporation and is not claiming preference under section 7(a) of the Federal Power Act.

(5) The proposed term of the requested permit is 36 months.

(6) There are no existing dams associated with the proposed Project.

ADDITIONAL INFORMATION

1. Nevada Energy Storage LLC has or intends to obtain and will maintain any proprietary rights necessary to construct, operate, or maintain the Project.
2. The name and address for the county in which any part of the Project and any Federal facilities that would be used by the Project would be located are listed below:

Eureka County
Eureka County Courthouse
County Clerk/Recorder
Lisa Hoehne
P.O. Box 694
Eureka, NV 89316
(775) 237-5263
FAX (775) 237-5614

3. The Project will not be located within any city, town, or similar subdivision.
4. The names and addresses of every city, town or similar local political subdivision with a population of at least 5,000 which is located within 15 miles of the project are listed below:

N/A
5. The project is not located within any irrigation district.
6. Nevada Energy Storage LLC knows of no other political subdivision in the general area of the project that there is reason to believe would likely be interested in or affected by the application.
7. Indian tribes that may have an interest in this Project:

None presently identified

VERIFICATION

This Preliminary permit application for the Ruby Hill Energy Storage Project is executed in the state of Washington, County of Spokane, by:

Michael A Werner
Nevada Energy Storage LLC
7435 E Columbia Dr. Spokane, Washington
99212 Phone: (509) 280-7486

Being duly sworn deposes and says that the contents of this application are true to the best of his knowledge or belief. The undersigned has signed the application this 24th day of April 2020

Nevada Energy Storage LLC

By: 

Michael A. Werner

Subscribed and sworn to before me, a Notary Public of the State of Washington, this 24th day of April 2020.

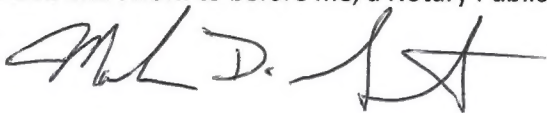


EXHIBIT 1: DESCRIPTION OF THE PROPOSED PROJECT OVERVIEW

This project will consist of a 200-megawatt closed-loop pumped storage facility. The project is to be located at an existing open pit mine with the pump storage plant utilizing an existing deep open pit mine for the lower reservoir and an earthen dam for the upper reservoir locations. Other existing features include 230 KV power lines located adjacent the existing power lines, and access roads throughout the project area.

Impact to undisturbed land will be minimal as the entire project will be on land previously disturbed by mining. The forebay will be built on USFS land with transmission lines, located on land already impacted by a power transmission corridor. The 200 MW pump generator station and the aft bay will be located on land previously impacted by mining activities.

UPPER RESERVOIR & DAM

The upper reservoir dam will be 30 meters high with a total crest length of 3474 feet. The construction method and liner requirements to be determined. The reservoir will have a surface area of 20 acres with an impoundment of 1941 acre-feet. Maximum surface elevation of 1231 MSL.

LOWER RESERVIOR

The lower reservoir will not require a dam as it will be located in the bottom of an existing open pit mine. The pit bottom (or future reservoir bottom) is 1677 MSL with a max reservoir surface elevation of 1707 MSL and storage of 2000 acre-feet. Type and lining for the lower lake as yet to be determined.

PENSTOCK & TAILRACE

Penstocks connecting the upper reservoir with the lower reservoir shall consist of the following: Two 4760' long 10' diameter steel penstocks with entrance transition will extend from the suction in the upper reservoir, through the upper reservoir dam and connect with the lower reservoir (aft bay) after passing through the pump generator station. The Pump turbines will connect to a horizontal tunnel w/bifurcation for water delivery to 4 (four) 50 MW pump/turbines. The low-pressure draft tube outlets from the turbine will connect to form a single 15' diameter low pressure draft tube. The connecting tube will extend a distance of approximately 80' from the turbines (powerhouse) to the lower reservoir located in the bottom of the open pit.

POWERHOUSE

The tentative location of the powerhouse is to be underground, close to the high-pressure penstock shaft, with an approximate elevation of 1670 MSL Located in the powerhouse will be 4 (four) 50 MW pump/turbine units, associated switchgear, and controls. The final elevation and dimensions of the powerhouse will be based upon the turbine selection which is yet to be determined.

TRANSMISSION LINES

Located adjacent to the lower reservoir will be a 200MVA substation for converting the 20KV generator/motor voltage to 230 KV for overland transmission. New 230 KV Transmission lines shall be installed extending some 13,000' from the new substation to the existing 230 KV Transmission lines and Machacek substation.

WATER SOURCE

Initial fill water will come from water purchased from existing water rights holders or obtaining water rights for the project. Negotiation with water right holders and specific routing options will be identified

during the course of the preliminary permit period. Make up water will be obtained from the Eureka Wastewater Treatment Plant and is estimated at 100 gpm.

PLANT CAPACITIES

1. The total plant installed capacity for the pumped storage plant is 200MW
2. Estimated average annual energy production: 730,000 MW Hours
3. The estimated plant capacity factor is: 80%

HOW THE PROJECT WILL SERVE IN THE PUBLIC INTEREST

The project will provide a number of important roles and services to support the growth and reliability of the renewable energy sector. Pump Storage Hydro (PSP) provides reliable and long duration grid scale dispatchable green power to support and firm the PV, wind power and other green energy providers and consumers throughout the region. In addition, the the closed loop, zero discharge PSH system it will repurpose a brownfield, closed mine site and the existing infrastructure into a long-life renewable energy facility.

PUBLIC LANDS AFFECTED BY THE PROJECT

All of the project is on private land. All of the project is on land previously impacted by surface and underground mining.

The project is in the Mount Diablo Meridian.

Township: 019N

Range: 053 E

Section: 10,11

Map

Latitude: N39 degrees, 31 minutes, 31 seconds

Longitude: W115 degrees, 59 minutes, 01 seconds

EXHIBIT 2: DESCRIPTION OF STUDIES

(1) General

(1i) Study Plan

The Applicant plans to engage in the following studies in order to design the technical aspects of the project and to confirm its economic viability:

- Consultation with agencies to determine the type of depth of studies required
- Determine and Consult with Native American people regarding project
- Environmental impact
- Archaeological
- Mine open pit ground water production and quality
- Plant make-up water requirements
- Mine pit water quality
- Initial and ongoing water acquisition
- Engineering studies, including soil studies, test pits and core holes, pit wall stability
- Energy market studies for the project
- Transmission interconnection studies

- Determination of equipment configuration
- Geotechnical study of existing mine waste dumps
- Engineering of upper reservoir dam
- Overall project costs and economic studies
- Additional studies may be required.

(1ii) New Roads

No new roads will be needed for the purpose of conducting the studies described in this exhibit.

(2) Work Plan for the New Dam Construction

(i) Description of field studies, tests, and other land disturbing activities

Engineering of the upper reservoir dam will require that several test holes be dug in the existing mine waste dump with a track mounted excavator. Access to the mine waste dump will be on existing mine roads and any inspection holes shall be backfilled and leveled leaving little or no evidence of activities. These studies will enable the determination of the type of dam to be built and the liner requirements.

(ii) Studies Schedule

Work Item Schedule

| | Month Beginning | Month Ending |
|--|-----------------|--------------|
| Engineering | | |
| Concept Refinement | 1 | 12 |
| Water Quality Studies | 1 | 12 |
| Engineering Studies | 12 | 24 |
| Environmental Studies | 12 | 24 |
| Archeological Studies | 12 | 24 |
| Geological Investigations | 12 | 24 |
| Equipment Selection | 12 | 24 |
| | | |
| Environmental | | |
| Agency consultation | 1 | 36 |
| Environmental Studies | 12 | 24 |
| Prepare draft application | 12 | 24 |
| | | |
| Other | | |
| Water rights study | 1 | 12 |
| Transmission Interconnect planning | 6 | 24 |
| Cost estimation and economic review | 6 | 24 |
| Power Marketing and Offtake agreements | 1 | 24 |
| Right of Way (land) | 12 | 24 |
| Preparation of PAD and NOI | 24 | 36 |

(3) Request for Waiver

It is anticipated that preliminary field studies, tests, and other activities to be conducted under the permit would not adversely affect any cultural resources or endangered species and would cause only minor alterations or disturbances of lands and waters. This is particularly true since only an upper reservoir is required and virtually the entire project is located on land previously disturbed by mining activity. Any and all lands altered or impacted during the study period shall be adequately restored. The Applicant therefore requests waiver of the full requirements of 18 CFR § 4.81 (C)(2).

Statement of costs and financing

The estimated cost of carrying out and preparing the studies, investigations, tests, surveys, maps, plans and specifications described in this application is estimated to be between \$1.5 and \$3.5 million.

Expected sources of financing

The expected sources of financing to conduct the studies described in this application are private or public investors.

EXHIBIT 3: PROJECT MAPS & DRAWINGS

Notes:

1. No areas within the study boundary are designated as wilderness area or within a wilderness study area, or recommended for designation as wilderness areas.
2. No areas within the study boundary are included in or have been designated for study for inclusion in the National Wild and Scenic Rivers System.

Exhibit 3 Maps and Drawings

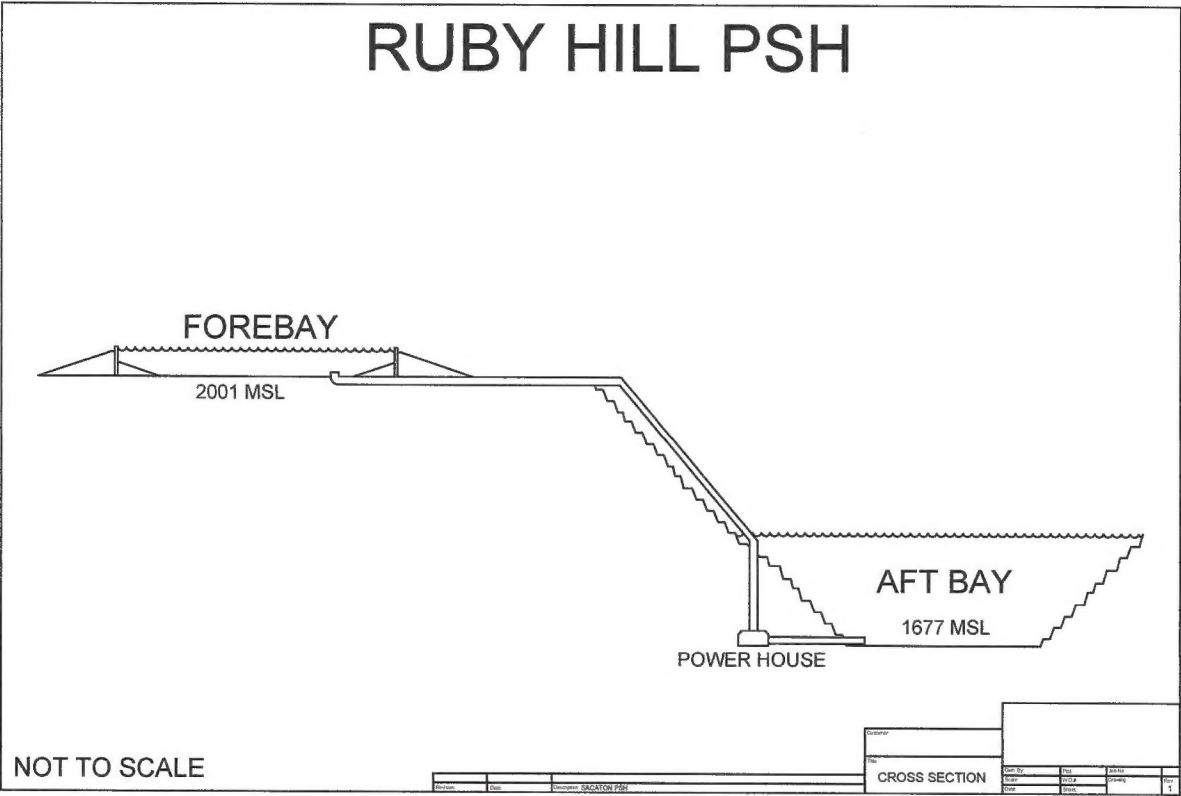
PROPOSED PROJECT BOUNDARY AND FEATURES

RUBY HILL PSH



Project Boundary

Ruby Hill Pumped Hydro Project Cross Section

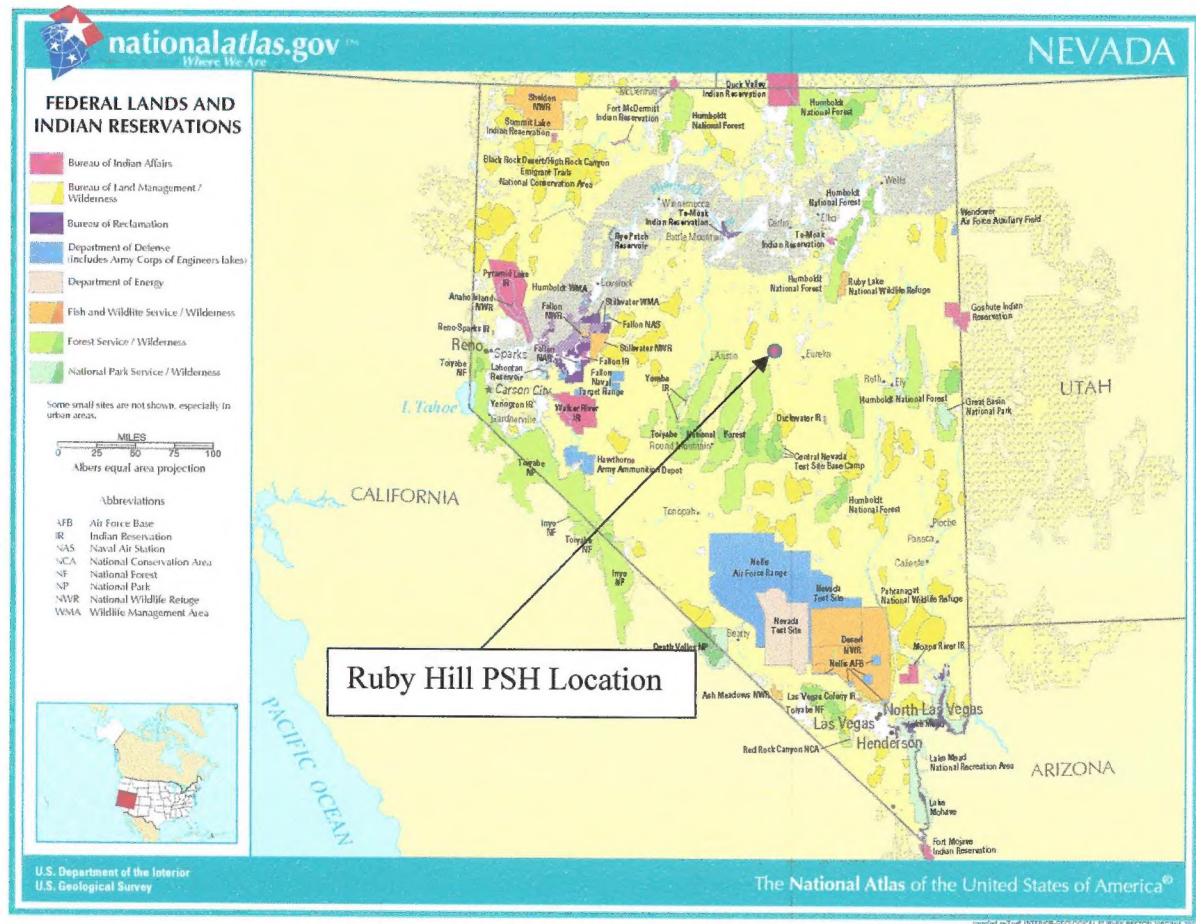


Ruby Hill Pumped Hydro Storage Project Location



Ruby Hill PSH

Land Ownership Map



Ruby Hill Pumped Hydro Project Area Public and Private Land Ownership

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